

CLAIMS PENDING IN THE APPLICATION

Claim 1 (original): A macroscopic mirror for wide angle scanning applications comprising:

a silicon substrate section of a predetermined shape and macroscopic size cut from a silicon wafer comprising a flat, polished surface side and an etched, rough surface side; and

a plurality of layers, including a layer of reflective medium, disposed on the flat, polished surface of said substrate section in such a manner to minimize flexural distortion of said flat surface.

Claim 2 (original): The macroscopic mirror of claim 1 wherein the reflective medium being selected for an at least one wavelength of radiation to be reflected thereby.

Claim 3 (original): The macroscopic mirror of claim 1 wherein the reflective medium is selected from the group consisting of gold and silver.

Claim 4 (original): The macroscopic mirror of claim 1 wherein the etched, rough surface side of the silicon substrate serves as a backing plate for bonding the mirror to a scan drive mechanism.

Claim 5 (original): The macroscopic mirror of claim 1 wherein the plurality of layers comprise a bottom primer layer, a middle reflective medium layer and a top protective coating layer.

Claim 6 (original): The macroscopic mirror of claim 5 wherein each layer of the plurality of layers is applied by sputtering to a predetermined thickness.

Claim 7 (original): The macroscopic mirror of claim 1 wherein the mirror has a thermal distortion coefficient in the range of 0.020 to 0.032.

Claim 8 (original): The macroscopic mirror of claim 1 wherein the substrate section is cut from the wafer in the form of an ellipse having a major axis dimension of approximately 70 mm and a minor axis dimension of approximately 50 mm.

Claim 9 (original): The macroscopic mirror of claim 1 wherein the silicon wafer from which the substrate section is cut has a thickness of less than 1 mm.

Claim 10 (original): The macroscopic mirror of claim 1 wherein the substrate section is laser cut from the silicon wafer.

Claim 11 (original): A method of making a macroscopic mirror for wide angle scanning applications comprising:

preparing a silicon wafer by polishing one side to a predetermined flatness and etching the other side to a predetermined roughness;

cutting a substrate section from the prepared silicon wafer to a predetermined shape and macroscopic size; and

applying a plurality of layers, including a layer of reflective medium, on the flat, polished surface of said substrate section in such a manner to minimize flexural distortion of said flat surface.

Claim 12 (original): The method of claim 11 wherein the substrate section is cut from the silicon wafer in a cookie cutter fashion.

Claim 13 (original): The method of claim 11 wherein the substrate section is laser cut from the silicon wafer.

Claim 14 (original): The method of claim 11 wherein the step of applying includes the steps of:

applying a primer layer to a first predetermined thickness on the flat, polished surface of the substrate section;

applying the reflective medium layer to a second predetermined thickness on the primer layer; and

applying a protective coating layer to a third predetermined thickness on the reflective medium layer.

Claims 15-20 (cancelled):